

### **REMARKS**

Claims 65, 68, 71, 74 and 81 are amended. Claims 65-72, 74-77, 81-82 and 84-85 are pending in the application.

Claims 65 and 68-69 stand rejected under 35 U.S.C. § 102(b) as being anticipated by JP 11204524 ('524). In accordance with MPEP § 2131 anticipation requires each and every element of a claim to be disclosed in a single prior art reference. Claims 65 and 68-69 are allowable over '524 for at least the reason that the reference fails to disclose each and every element in any of those claims.

Each of independent claims 65 and 68 recites a physical vapor deposition target consisting of an alloy of copper and silver where silver is present in the alloy at from less than 1.0 at% to 0.001 at%. The Examiner indicates that these features are anticipated by '524 and specifically relies on paragraph 42. However, as noted in applicant's two previous responses, paragraph 42 of the '524 reference discloses a copper alloy film 108. Such disclosure clearly does not anticipate the claim 65 recited physical vapor deposition target.

At page 5 of the present Action the Examiner indicates that the recited "physical vapor deposition target" has no structure and that therefore such structure is considered to have a generic structure and could be a film, wire, plate, stripe, etc. In order to clarify the claims, and without admission as to the propriety of the Examiner's statements, each of claims 65 and 68 (as well as independent claims 71, 74 and 81) has been amended to recite a physical vapor deposition target which is configured for mounting within a physical vapor deposition apparatus. Such amendment is supported by the specification at, for example, Fig. 1 and the text at page 13, lines 3-10. With direction to MPEP §2111.01(II),

applicant notes that the terminology within a claim must be presumed to take on the ordinary and customary meaning attributed to them by those of ordinary skill in the art. Applicant notes that the term "target " has a well understood meaning within the art and that structure of the sputtering target configured for mounting within a physical vapor deposition system as recited in the present independent claims would be by one skilled in the art.

The Examiner further indicates at page 5 of the present Action that "a mere statement of new use for an otherwise old or obvious composition cannot render a claim to the composition patentable". Applicant notes that the claims specifically recite a physical vapor deposition target and not an intended use as alleged by the Examiner. Nor do the claims recite a process. From the Examiner's statements, it would appear that the Examiner is suggesting that the copper alloy film 108 disclosed at paragraph 42 of the '524 reference could be utilized as a target or qualify as a target. The Examiner further states at page 6 that "the fact that the cited reference discloses film 108 cannot be formed by sputtering is evinced that the film has been used a sputtering target material". Although the meaning of the preceding sentence is not entirely clear, it is noted that the relied upon reference in no way supports the Examiner's contention of film 108 either being formed by or being utilized as a target material. As set forth in applicant's previous response, the '524 reference indicates that the film 108 cannot be formed by sputtering since such techniques do not provide the necessary step coverage. Further, utilization of the copper alloy film 108 as a sputtering target would most likely destroy the film for its intended purpose. Accordingly, the Examiner's reliance upon the '524 to support the present anticipation

rejection is entirely unfounded. Accordingly, claims 65 and 68-69 are not anticipated by '524 and are allowable over this reference.

Claims 66-67, 70-72, 81-82 and 85 stand rejected under 35 U.S.C. § 103 as being unpatentable over '524 in view of Kardokus, U.S. Patent No. 6,113,761. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Each of these three factors must be shown in order to establish a *prima facie* case of obviousness, the burden of which is on the Examiner. Claims 66-67, 70-72, 81-82 and 85 are allowable over '524 and Kardokus for at least the reason that the references, individually or as combined, fail to disclose or suggest each and every element in any of those claims and fail to provide a basis for a reasonable expectation of success. Accordingly, a *prima facie* case of obviousness has not been established.

As indicated above, independent claims 65 and 68 are not anticipated by '524. Further, nothing in the '524 disclosure suggests the claims 65 and 68 recited physical vapor deposition target where silver is present at from less than 1.0 at% to 0.001 at% and independent claims 65 and 68 are not obvious in view of '524. Independent claim 81 recites a physical vapor deposition target consisting of copper and at least one of silver and tin present at from less than 1.0 at% to 0.001 at%. Independent claim 71 recites a physical vapor deposition target consisting of an alloy of copper and silver where silver is present at less than 1.0 at% to 0.001 at%. Accordingly, independent claims 71 and 81 are not

anticipated or rendered obvious by the '524 disclosure for at least reasons similar to those discussed above with respect to independent claims 65 and 68.

As indicated at page 3 of the present Action, Kardokus is relied upon as disclosing Sn and Ag elements present in a target, and grain size for sputtering targets. However, the ranges disclosed by Kardokus do not overlap the recited content of Sn and/or Ag in any of claims 65, 68, 71 and 81 and therefore Kardokus does not suggest the recited silver and/or tin content of the present claims. The Examiner indicates that optimization of results effective variables such as Sn and/or Ag content are "within ambit of ordinary skill artisan". However, this statement is not supported by any reference and is therefore unfounded. Nothing in any of the cited references discloses or suggests the Sn and/or Ag content recited in applicant's claims. The only suggestion for the recited Sn/Ag content is applicant's own specification which cannot be used as a basis of rejection of the present claims. Applicant notes that the Examiner acknowledges at page 6 of the present Action that Kardokus does not teach or suggest the recited ranges of Sn or Ag. However, the Examiner fails to provide any prior art basis that would render the recited ranges obvious. Nor has the Examiner provided a prior art basis for a reasonable expectation of achieving the physical vapor deposition targets having such ranges or this feature in addition to additional cited features in any of the independent claims. Accordingly, the Examiner's burden to establish a *prima facie* case of obviousness has not been met with respect to any of claims 65, 68, 71 and 81.

Dependent claims 66-67, 70, 72, 82 and 85 are allowable over the combination of '524 and Kardokus for at least the reason that they depend from corresponding allowable base claims 65, 68, 71 and 81.

Claims 74-77, 81-82 and 84-85 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kardokus and '524 as further combined with JP 01096374 ('374). As indicated above, independent claim 81 is not rendered obvious by the combination of Kardokus and '524. Independent claim 74 recites a physical vapor deposition target consisting of copper and from less than 1.0 at% to 0.001 at% Sn and optionally Ag. Claim 74 is not rendered obvious by the combination of Kardokus and '524 for at least reasons similar to those discussed above with respect to independent claims 65, 68, 71 and 81.

The Examiner indicates reliance upon '374 as showing that higher contents of 'stabilizer' are known in the sputtering art. The Examiner further provides a copy of the '374 abstract indicating that such was obtained from WPIDS (present action at page 6). Applicant submits herewith the '374 abstract obtained from the Japan Patent Office. As indicated therein, the disclosed invention pertains to a cladding sheet comprising copper and one or more elements which can include, for example, Sn. The copper cladding sheet disclosed by the '374 facilitates separation of the target from the backing plate and is the purpose of the invention. Applicant requests consideration of such abstract and again notes that such disclosure does not contribute toward suggesting the claims 74 and 81 recited physical vapor deposition targets comprising an alloy of copper and the recited amounts of Sn and/or Ag. The '374 disclosure of Sn and a cladding sheet in no way contributes toward suggesting utilization of Sn and/or Ag as indicated by the Examiner and

such disclosure fails to support the Examiner's position. Accordingly, independent claims 74 and 81 are not rendered obvious by the cited combinations of Kardokus, '524 and '374 and are allowable over these references.

Dependent claims 75-77, 82 and 84 are allowable over the cited combinations of Kardokus, '374 and '524 for at least the reason that they depend from corresponding allowable base claims 74 and 81.

Claims 74-77, 81-82 and 84-85 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kardokus in view of any of JP 57056215 ('215), JP 57145954 ('954) or JP 50077216 ('216). Applicant notes that each of the Japan patents '215, '954 and '216 fail to disclose or suggest any physical vapor deposition target. The Examiner again indicates reliance upon disclosures as falling within "a generic structure". However, as noted above, the term "physical vapor deposition target" has a particular and well understood meaning within the art. Additionally, each of claims 74 and 81 are amended to specifically indicate that the recited physical vapor deposition target is configured for mounting within a physical vapor deposition system. Accordingly, not one of '215, '954 and '216 contribute in any way toward suggesting the recited physical vapor deposition targets or provide a basis for a reasonable expectation of achieving the recited targets. Independent claims 74 and 81 are therefore allowable over the various cited combinations of Kardokus, '215, '954 and '216.

Dependent claims 75-77, 82 and 84-85 are allowable over the various cited combinations of Kardokus, '215, '954 and '216 for at least the reason that they depend from allowable base claims 74 and 81.

For the reasons discussed above pending claims 65-72, 74-77, 81-82 and 84-85 are allowable. Accordingly, applicant respectfully requests formal allowance of such claims in the Examiner's next action.

Respectfully submitted,

Dated:

July 27, 2005

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